[PD2-53] [10/19/2001 (Fri) 14:00 - 17:00 / Hall D]

Antioxidant effects of the rhizomes of Astilbe koreana on free radical and lipid peroxidation

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In our continuous study on the antioxidant from plants, the MeOH extract from the rhizomes of *Astilbe koreana* showed a strong activity on DPPH radical scavenging assay. The rhizomes of *Astilbe koreana* (Saxifragaceae) and other Astilbe species have been used for headache, analgesic and anti-inflammatory drug as substitute for "Shengma". The MeOH extract was partitioned sequentially with hexane, EtOAc, BuOH. And their antioxidant activities against DPPH radicals, superoxide radicals, hydroxyl radicals and lipid peroxidation were evaluated. Especially, EtOAc and BuOH fractions scavenged DPPH radical in a dose-dependent manner with IC_{50} values of 15.2 ± 1.2 μg/ml and 17.3 ± 1.2 μg/ml, respectively. In the superoxide radical assay, EtOAc and BuOH fractions showed activity with IC_{50} values of 63.1 ± 11.7 μg/ml and 82.8 ± 7.6 μg/ml, respectively. In the hydroxyl radical assay, the two fractions showed activity with IC_{50} values of 40.2 ± 4.3 μg/ml and 39.8 ± 4.1 μg/ml, respectively. In the lipid peroxidation assay, the EtOAc fraction exhibited potent activity with IC_{50} value of 6.4 ± 0.3 μg/ml. The EtOAc fraction exhibited more potent activities than α-tocopherol in all the results.

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Inhibitory effect of eugenol on lipopolysaccharide-activated PGE2 production in macrophage cells

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To elucidate the active principles for cyclooxygenase-2 (COX-2) inhibition from plant extracts, the extract of the cortex of Eugenia caryophyllata (Myrtaceae) was studied. The methanol extract showed the potent inhibition of prostaglandin E2 production in lipopolysaccharide (LPS)-acitivated mouse macrophage RAW 264.7 cells (98.3% inhibition at test concentration of 10 μg/ml). Further, hexane-soluble layer was the most active partition compared to ethyl acetate, n-butanol, and water-soluble parts. By bioassay-guided fractionation of hexane-soluble layer, eugenol was isolated and exhibited a significant suppression of PGE2 production (IC50 = 0.06 μg/ml). Additional studies are underway to explore the effects of eugenol on COX-2 gene and protein expression.

[PD2-55] [10/19/2001 (Fri) 14:00 - 17:00 / Hall D]

Inducible Nitric Oxide Synthase Inhibitory Activity of Pseudoguaianolides from the Flowers of Inula britannica

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Three pseudoguaianolide type sesquiterpenes, bigelovin, 2,3-dihydroaromaticin, and ergolide were isolated as inhibitory constituents against inducible nitric oxide synthase (iNOS) from the flowers of *Inula britannica*. Bigelovin exhibited a highly potent inhibitory activity on iNOS in murine macrophage RAW 264.7 cells with an IC_{50} value of 0.14 μg/ml, which is about 4 times more potent than the known selective inhibitors of iNOS, L-N^6-(1-Iminoethyl)lysine (IC_{50} = 0.65 μg/ml). 2,3-Dihydroaromaticin and ergolide also exhibited potent inhibitory activity on iNOS with IC_{50} values of 0.26 and 0.21 μg/ml, respectively.

[PD2-56] [10/19/2001 (Fri) 14:00 - 17:00 / Hall D]

Studies on antifungal activities of essential oil components in Agastache rugosa

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The antifungal activities of essential oil components in *Agastache rugosa* were investigated by micro broth dilution method and disc diffusion method. As the result, the total oil fraction separated by simultaneous steam distillation-extraction(SDE) from the plants exhibited significant inhibiting activities against *Aspergillus niger, A. flavus, Trichoderma viride, Candida albicans, C. utilis, C. tropicalis, Cryptococcus neoformans, Trichosporon mucoides, Trichophyton tonsurans* and *Geotrichum capitatum*.

[PD2-57] [10/19/2001 (Fri) 14:00 - 17:00 / Hall D]

Antitumor activity of Diarylheptanoids from Barks of Alnus japonica on mouse melanoma cell line.

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The cytotoxic activity of several diarylheptanoids which were isolated from barks of Alnus japonica on mouse melanoma cell line were evaluated by 3-(4,5-dimethylthiazole-2-yl)-2,5-diphenyl-2H-tetrazalium bromide (MTT) colorimetric method. 1,7-bis-(3,4-dihydroxyphenyl)-5-hydroxyheptane, oregonin, hirsutanolol, hirsutenone were shown significant cytotoxic activity at 10-30㎍/㎖ concentration. Especially, aglycones and monoglycosides of diarylheptanoid showed potent cytotoxic activities on mouse melanoma cell line but diglycosides of diarylheptanoids did not show cytotoxicity.

[PD2-58] [10/19/2001 (Fri) 14:00 - 17:00 / Hall D]

Sesquiterpenes with Hepatoprotective Activity from Torilidis Fructus on Tacrine-induced Cytotoxicity in Hep G2 Cells

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